



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/907,230	07/17/2001	Trung V. Le	10273US01	6313

7590

01/05/2006

Imation Corp.
Attention: Eric D. Levinson
Legal Affairs
P.O. Box 64898
St. Paul, MN 55164-0898

EXAMINER

SCHUBERT, KEVIN R

ART UNIT

PAPER NUMBER

2137

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/907,230

Applicant(s)

LE ET AL.

Examiner

Kevin Schubert

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10182005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2137

DETAILED ACTION

Claims 1-38 have been considered. Examiner respectfully submits that the amendments to the claims, filed 10/18/05, do not overcome the prior art rejection under Sollish et al. A response to arguments section concludes this action.

5

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/18/05 has been entered.

10

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

15

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20

Claims 1-4,6,8-10,12,14-25,27-31, and 34-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Sollish, PCT International Publication No. WO 98/08180.

25

As per claims 1,15,23, and 29, the applicant describes a computer-readable medium comprising the following limitations which are met by Sollish:

a) digital content (page 16, lines 2-9);

Art Unit: 2137

b) an access key that facilitates access to the digital content on the medium and prevents creation of unauthorized copies of the medium, wherein the access key includes uncorrected data and associated error correction information having one or more errors (page 24, line 23 to page 25, line 2);

5 c) an executable software application to control access to the digital content based on the uncorrected data (page 16, lines 2-9);

Sollish discloses a copy protection method in which an access key is written onto a computer-readable medium, such as a CD or DVD, in the form of uncorrected data and associated error correction information having errors. The uncorrected data is in the form of ambiguous symbols. Errors are intentionally introduced into the error correction information associated with the ambiguous symbols so
10 that error-correcting capabilities of the player do not change the ambiguous symbols. The ambiguous symbols are used to authenticate the disc. Since the ambiguous symbols are uncopyable, an unauthorized disc is recognized if it does not have the ambiguous symbols and execution of the disc is prevented. Therefore, copy protection ensues.

Regarding claims 1 and 15, receiving an input from the user can be a request to execute or install
15 the data stored on the CD or DVD (page 37, lines 19-30). Access to the medium (ie execution of the data on the medium) is controlled by the user's request to execute the data and whether or not the ambiguous symbols are present.

As per claims 2 and 16, the applicant describes the method of claims 1 and 15, which are met by
20 Sollish (see above), with the following limitation which is met by Sollish:

a) invoking a device driver of a storage device to read the uncorrected data from the medium without modification from application of the error correction information (page 16, lines 2-9);

b) comparing the uncorrected data and the input (page 16, lines 2-9);

The user's desire to execute a program is compared with the decision as to whether the disc is
25 authorized or not based on the uncorrected data. A decision is then made as to whether the program should be executed.

Art Unit: 2137

As per claims 3 and 17, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes installing a software application from the medium onto a computing system (page 37, line 19 to page 38, line 5).

5

As per claims 4, 18, 24, and 36, the applicant describes the method of claims 1, 15, 23, and 29, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes executing a software application from the medium (page 16, lines 6-7).

10

As per claims 6, 19, 25, and 35, the applicant describes the method of claims 1, 15, 23, and 29, which are met by Sollish (see above) with the following limitation which is also met by Sollish:

Wherein controlling access to the medium includes producing an audio output based on content stored on the medium (page 1, line 5).

15

As per claims 8 and 20, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is also met by Sollish:

Wherein the error correction information includes error correction information selected from an error correction code, a cyclic redundancy code, and a Cross Interleaved Reed-Solomon Code (page 9, lines 13-15).

20

As per claims 9 and 21, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is also met by Sollish:

Wherein controlling access to the digital content on the medium comprises decrypting the digital content contained within the medium based on the uncorrected data and the input (page 37, lines 14-16).

25

Art Unit: 2137

As per claim 10, the applicant describes the method of claim 9, which is met by Sollish (see above), with the following additional limitation which is also met by Sollish:

Wherein the digital content comprises at least one of a software application, audio data, or video data (page 37, line 20).

5

As per claim 12, the applicant describes the method of claim 1, which is met by Sollish (see above), with the following limitation which is also met by Sollish:

Further including selecting the access key from a plurality of access keys, where each of the access keys includes data and associated error correction information, having one or more errors (page 23, lines 20-27).

10

Sollish discloses that a plurality of access keys, which contain data and associated error correction information, can be written on the medium. The reading medium need only select one to prove that the medium is authentic.

15

As per claims 14,22,28, and 37, the applicant describes the method of claims 1,15,23, and 29, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein the uncorrected data includes accurate error correction information for the uncorrected data (page 17, lines 10-11).

20

The uncorrected data is associated with error correction information which contains one or more errors at specific locations. The error correction information is a mix of accurate error correction information and one or more errors.

As per claim 27, the applicant describes the data storage device of claim 23, which is met by Sollish (see above), with the following limitation which is also met by Sollish:

25

Wherein the error correction information causes the uncorrected data to be changed when the computer-readable medium is copied (page 24, line 23 to page 25, line 2).

Art Unit: 2137

As per claims 30,31, and 34, the applicant describes the method of claims 29 and 33, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein associating content and the access key comprises communicating the digital content and the access key through a transmission medium (page 23, lines 14-15);

5 The transmission medium is specialized optical media and the storage medium is an optical device, such as a CD or DVD (page 1, lines 5-6).

As per claim 38, the applicant describes the method of claim 1, which is met by Sollish, with the following limitation which is also met by Sollish:

10 Wherein the access key comprises a cryptographic access key that facilitates decryption of the digital content on the medium (page 19, lines 8-10).

Claim Rejections - 35 USC § 103

15 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25 Claims 5 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Sims, U.S. Patent Application No. 2002/0016919.

As per claims 5 and 32, the applicant limits the method of claims 1 and 29, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes:

30 a) copying the digital content from the medium to a second medium (Sollish: page 23, lines 10-19);

Art Unit: 2137

b) applying the error correction information to the uncorrected data to produce a second access key (Sims: [0047]; Sollish: page 23, lines 10-19);

5 c) copying the second access key to the second medium, wherein the second access key is corrupted by the one or more errors such that the second access key does not facilitate access to the copied digital content on the second medium (Sims: [0047]; Sollish: page 23, lines 10-19).

Sollish discloses all the limitations of claims 1 and 29. Sollish further discloses a method of preventing unauthorized copying in which digital content and a second access key is copied to a second medium (part a) whereby the second access key does not facilitate access to the digital content copied on the second medium. However, Sollish is silent as to applying the error correction information when
10 data is copied to the second medium.

Sims discloses a similar copy prevention technique in which errors are corrupted as the error correction information "corrects" these values in copying. Applying the ideas of Sims with those of Sollish allows for error correction capabilities as data is copied to the second medium. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Sims
15 with those of Sollish because introducing error correction capabilities would "correct" error values in copying and thus further ensure copy protection.

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Stebbings, U.S. Patent No. 6,684,199.

20

As per claim 7, the applicant describes the method of claim 1, which is met by Sollish (see above), with the following limitations which are met by Stebbings:

a) receiving a first access key and a second access key from the medium, where the first and second access keys each include uncorrected data (Sollish: page 23, lines 20-27);

25 b) comparing the uncorrected data of the first access key to the uncorrected data of the second access key (Stebbing: Col 15, lines 41-48);

Art Unit: 2137

c) selectively using the first access key based on the comparison (Stebbing: Col 15, lines 41-48);

Sollish discloses all the limitations of claim 1. Also Sollish discloses a copy protection method in which a plurality of access keys are present on an optical disc. However, Sollish does not disclose a comparison of first and second access keys.

Stebbing discloses a copy protection method similar to Sollish's in which a plurality of access keys are present on an optical disc. Stebbing also discloses that the access keys can correspond to particular tracks of an audio CD and that authentication is given on a track by track basis. Therefore, if a user wishes to play track 5, the system compares the access keys of each track and selectively uses the access key which decrypts track 5.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Stebbing with those of Sollish because doing so allows the selective use of a particular access key for access to information associated with the particular access key.

As per claim 11, the applicant describes the method of claim 1, which is met by Sollish (see above), with the following limitation which is met by Stebbing:

Wherein receiving the access key includes decrypting the access key (Stebbing: Col 14, lines 66-67).

Claims 13 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Bell, U.S. Patent No. 6,832,319.

As per claim 13, the applicant describes the method of claim 12, which is met by Sollish (see above), with the following limitations which is met by Bell:

Wherein selecting the access key includes:

a) assigning a random number to the medium, wherein the random number is uniquely associated with the medium (Col 2, lines 44-47; Col 6, lines 42-46; Fig 1);

Art Unit: 2137

b) selecting the access key from the plurality of access keys based on the random number (Col 4, lines 40-54);

c) generating a hash value from the random number and the selected access key (Col 4, lines 40-54; Col 6, line 60-Col 7, line 4);

5 d) decrypting content of the medium using the hash value (Col 4, lines 40-54);

Sollish discloses all the limitations of claim 12. However, Sollish does not disclose the particular method of decrypting content as described above.

Bell discloses a copy protection system of an optical disc in which each disc is assigned a unique media ID, or random number. The disc also has a plurality of media keys. Based on the media ID or
10 random number, a computer readable code selects a media key from the disc and creates the content decryption key by combining, or hashing, the media ID with the media key to form a content key. The content key is used for decrypting the content on the medium.

It would have been obvious to one of ordinary skill in the art to combine the ideas of Bell with those of Sollish because doing so yields a more secure method of retrieving a decryption key.

15

As per claim 33, the applicant describes the method of claim 29, which is met by Sollish (see above), with the following limitations which are met by Bell:

a) receiving input from a user (Col 4, lines 26-39);

b) generating an encryption key based on the input and the access key (Col 4, lines 26-39);

20 c) encrypting the digital content based on the encryption key (Col 4, lines 26-39);

d) associating the encrypted digital content with the access key (Col 4, lines 26-39);

The input from the user is a command to encrypt the data on the medium. Based on this command, an encryption key is generated based on a media key (access key) and a media ID. The digital content is encrypted on the medium and associated with the media key (access key) stored in the
25 media key block.

Art Unit: 2137

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Menezes (Menezes, Alfred. Handbook of Applied Cryptography. CRC Press. 1997. page 363).

As per claim 26, the applicant describes the data storage device of claim 23, which is met by
5 Sollish (see above), with the following limitation which is met by Menezes:

Wherein the error correction information includes an incorrect cyclic redundancy code (page 363);

Sollish describes all the limitations of claim 23. However Sollish includes the use of Cross Interleaved Reed-Solomon Code, not cyclic redundancy code.

Menezes discloses that cyclic redundancy code is a well known and used error correction technique, like
10 Cross Interleaved Reed-Solomon Code. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Menezes with those of Sollish and use CRC instead of CIRC because CRC is a commonly used technique for error correction.

Response to Arguments

15 Applicant's arguments filed 10/18/05 with respect to the 102(b) rejection of claim 1 under Sollish have been fully considered but they are not persuasive. Applicant argues that Sollish does not describe the amended limitations of (1) preventing creation of unauthorized copies and (2) having an access key that includes uncorrected data and associated error correction information. Examiner respectfully disagrees.

20 Regarding applicant's first argument that Sollish does not include preventing creation of unauthorized copies, applicant presents the following argument:

25 "The amended claims clarify that the invention concerns the prevention of the creation of unauthorized copies of a medium. In stark contrast, the passages of Sollish, which are relied upon by the Examiner in rejecting all pending claims, are actually the antithesis of this new requirement to Applicants' pending claims because the cited passages describe techniques for overriding error correction" (See Remarks page 1).

Examiner respectfully disagrees with applicant's argument. Sollish discloses a copy prevention method in which a disc is recognized as authorized and allowed to execute if it contains uncopyable,
30 ambiguous symbols. In order to avoid the uncopyable, ambiguous symbols from being overwritten on an

Art Unit: 2137

authorized disc, errors are inserted into the associated error correction information of the uncopyable, ambiguous symbols. While the user is able to play an authorized disc normally with the assistance of the errors inserted into the error correction information, the user is unable to make an unauthorized copy of the medium **because the user is unable to copy the uncopyable, ambiguous symbols**. At best, a

5 user would be only able to copy content data which a user cannot execute. Thus, the method described by Sollish bars a user from making a copy of the uncopyable, ambiguous symbols, and accordingly prevents the creation of unauthorized copies of a medium.

Applicant further appears to be arguing the following claim limitation "wherein the access key facilitates access to digital content on the medium and includes uncorrected data and associated error

10 correction information". More specifically, applicant argues that the access key does not include associated error correction information. Examiner respectfully disagrees. Sollish discloses a copy protection method in which an access key is written onto a computer-readable medium, such as a CD or DVD, in the form of uncorrected data and associated error correction information having errors. The uncorrected data is in the form of ambiguous symbols. Errors are intentionally introduced into the error

15 correction information associated with the ambiguous symbols so that error-correcting capabilities of the player do not change the ambiguous symbols. The ambiguous symbols may be used to authenticate the disc or for decryption purposes. Accordingly, Sollish has disclosed an "access key" including uncorrected data and associated error correction information.

As a sidenote, examiner notes that the "key" used in decryption is the uncorrected data (see

20 Specification page 9, lines 13-14). Applicant refers to the access key to include the actual "key" used in decryption and the error correction information associated with the key. Examiner has referred to Sollish accordingly.

Applicant's arguments with respect to claim 38 have been fully considered but they are not

25 persuasive. Applicant argues that Sollish does not suggest a cryptographic access key used to facilitate decryption of the digital content. Examiner respectfully disagrees. Another embodiment of Sollish's

Art Unit: 2137

invention has the non-copyable symbols being further able to decrypt digital content. See, for example, page 16, lines 11-14 and page 19, lines 8-10.

Applicant's arguments with respect to claim 5 have been fully considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claim 13 have been fully considered but they are not persuasive. Applicant argues that the limitations of the claim are not met by Bell. Examiner respectfully submits that applicant may have mischaracterized the Bell reference. Bell discloses a media manufacturer machine which assigns a unique random number (media identification) to a medium. The random number may be as little as sixteen bits long (Col 6, lines 42-46). Bell further discloses that a media key is selected from a block containing a plurality of media keys (Col 3, line 17 to line 40). The media key and the media identification are hashed to yield a content key (Col 6, line 60 to Col 7, line 4), and the content key is used to decrypt content of the medium (Col 2, line 63-65).

Conclusion

This action is made non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2137

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should
5 you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KS

10


EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER